

REMARKS:

I thank the Examiner for holding an interview on February 9, 2004 and giving me the opportunity to discuss the merit of my invention and distinguish it from the cited prior art.

Claims 1-44 are pending in the application. I respectfully request reconsideration of the claims in view of the following remarks that also summarize the points that I have presented during the interview.

Objections

The examiner objected the drawings because reference sign 67 was on the drawings but was not mentioned in the description. I have amended paragraph 21 of the specification to correct this deficiency and I have amended the abstract to comply with the Examiner objections to its language and format.

Rejections

Claims 1-44 are rejected by the examiner under 35 U.S.C. 102(a) and/or (e) as being anticipated by "Demarais" US patent 6,454,775 (Claims 3, 28 and 33) or under 35 U.S.C. 103 as being unpatentable over Demarais in view of "Straub" US patent 5,876,414 (Claims 1, 5, 8 and 10-13), in view of "Shturman" US patent 6,217,595 (Claims 2, 4, 15-27, 29-32, 34-42, 43 and 44), in view of Straub and further in view of Shiber US patent 5,334,211 (Claims 6, 7, 14), in view of Straub patent and further in view of Shturman (Claim 9).

As I pointed out during the interview, Demarais should not be considered as prior art because my application is entitled to an earlier effective filing date compared to Demarais.

Demarais was filed on December 6, 1999 whereas the subject matter of my application is entitled, under 35 USC §120, to the benefit of my earlier patent

applications SN 0/654934 filed on September 1, 2000 that is CIP of patent application SN 9/389712 filed on September 3, 1999 (now patent 6,143,009 or '009 patent). These applications are also incorporated by reference in my application. All the elements claimed in independent claims 1-4 of my application and deemed by the examiner to be anticipated by Demarais, are fully disclosed in my parent applications and thus, are entitled to effective filing date September 3, 1999, which is earlier than Demarais filing date December 6, 1999.

More specifically, as I pointed out during the interview, the disclosure supporting the preamble of my claims 1 to 4, *"an apparatus for extracting an obstruction located in a patient's vessel by fragmenting the obstruction and conveying fragments of the obstruction through the apparatus and out of the patient's body"*, is disclosed in the FIGS. 1, 3, 3A and 4 of my '009 patent and the detailed description of the FIGS., column 1 lines 13-15 and 21-23).

The Examiner cites Demarais as disclosing an element of my independent claims 1 to 4 *"a flexible tube [...], having an open distal end, and is connectable to a negative pressure"*. My '009 patent also discloses (column 2, lines 5-11, FIGS. 1, 3, 3A, 4): *"....flexible-tube 12 with an open distal end 13 ("distal end" referring to the end that goes further into the vessel and "proximal end" referring to the other end) and a proximal end 14. The proximal end of the tubular-housing defines a suction port 15 that is connected to the proximal end of the flexible-tube 12."*

The Examiner cites Demarais et al. as disclosing an element of my independent claims 1-4 *"motor-rotateable flexible conveyor-shaft [...]that is disposed in the flexible tube at least a part of the flexible conveyor-shaft being a spiral wire, the direction of spiral is such that as it rotates relative to the flexible tube it conveys the obstruction fragments, cooperatively with the negative pressure, from the open distal end through the flexible tube [...]"*. My '009 patent also discloses a rotary flexible agitator-shaft 31(31'), made of spiral wire that is disposed in a

flexible tube 12 (column 3, lines 18-20; FIGS. 3, 3A) and that “the motors shaft 17’ is preferably rotated in a direction so that the relative motion between the spiral wire and the flexible-tube 12 assists the suction applied at port 15 in conveying the obstruction material into the open distal end 13 and through the flexible-tube 12” (column 4, line 5+).

The Examiner cites Demarais as disclosing an element of my claims 1-4 “an offset agitator [...] that at least partially extends out of the open distal end of the flexible-tube [...]being connected to and rotated by the distal end of the flexible conveyor-shaft to fragment the obstruction while rotating with an effective diameter that is larger than its cross-sectional diameter [...].” My ‘009 patent also discloses (column 2, lines 24-25, FIG.1) a curved flexible distal agitator 19, that extends out of the open distal end 13 of the tubular housing. The offset distal-agitator 33 (or 33’, 44) rotates with effective diameter 51 (i.e., the diameter within which it engages the obstruction material) is substantially larger than the opening through the tube 12 through which the agitator-shaft and the offset distal-agitator are inserted (column 2, lines 33-37, FIGS. 1, 3, 3A, 4).

Other elements and features, claimed in my independent claims 1-4, are also disclosed in my ‘009 patent.

As to claim 1, the element of a short section of twisted wire between the conveyor-shaft and the offset agitator that is and integral part of the spiral wire, was disclosed on FIG 3B and column 1 lines 49-53 of my ‘009 patent.

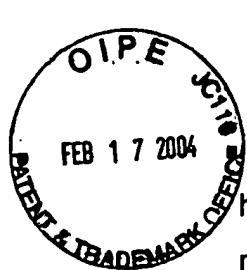
As to claim 1 and 2, a feature that that the conveyor shaft is made of a spiral wire “with gaps between its coils to enable the spiral to convey fragments” was described as spiral’s pitch 32 (column 4, line 12) and was depicted in FIGS 3 and 3A of my ‘009 patent.

As to claim 2, a feature that the gaps between the coils of offset agitator are substantially smaller than the gaps between the coils of the flexible conveyor-shaft was described as distal agitator is wound on its flat side ... [that] reduces the gap between the coils (column 3, lines 60-61, FIGS 3A and 3B) of my '009 patent.

As to claim 3, an element of a clearance between the flexible conveyor-shaft and the flexible tube was disclosed as spacing between the spiral and the wall of the flexible tube 12 (column 4, lines 19-20) of my '009 patent.

During the interview I also pointed out that there were substantial differences between the elements of my present invention to the corresponding elements to which the Examiner referred to in Demarais:

In column 9 lines 45+ Demarais explains that "Similarly, the macerator wire 110 is fixedly attached to the tubular shaft 104 at an attachment point 122. The other end of the macerator wire 110 is connected at attachment point 124 to the portion of bearing structure 114 which rotates together with the tubular shaft 104. In this way, the macerator is both axially shortened so that it radially expands and is able to rotate when the tubular shaft 104 is rotated, e.g., in the direction of arrow 126." Thus, agitator is held between two structural members of his design making his macerator inherently stiffer. This goes hand in hand with the fact that in Demarais' design the macerator is an internal part that operates inside a protective cage 108 or 26, 208, or 304 depending on the embodiment and since its an internal element it does not have to be flexible). Demarais explains in column 8 lines 12+ that "In particular, the combination of the expansible positioning cage 26 and the macerator which is spaced radially inward from the shell defined by the cage, clot removal and disruption can be performed with minimum risk of injury to the blood vessel wall". This is much more complex and a very different mechanism that the one disclosed in my patent application which



has no cage structure nor any equivalent part or function to Demarais' cage since my 'macerator' is designed to contact the vessel wall in order to clean it.

For the above reasons, I believe that Demarais does not support the 102 or the 103 rejections and respectfully request allowance of the listed claims.

The examiner has also rejected claims 1-6, 8-10, 14-16, 18-20, 24-26, 28-30 and 34-40 under the non-statutory doctrine of double patenting over U.S. Patent Nos. 6,482,215 and 6,143,009 (both owned by me). To overcome this rejection, I have enclosed signed terminal disclaimer based on the earlier of these two patents #6,143,009.

Any additional charges or credits relating to this application may be applied to my DEPOSIT ACCOUNT 19-2040.

I hereby certify that this amendment is mailed on February 17, 2004, by EXPRESS MAIL # EV112811732US to the Com. Of Patents, P.O.Box 1450, Alexandria, VA 22313-1450 and I request that the MAILING DATE be the entry date for this paper.

Samuel Shiber,
365 Kearney Cr.,
Manchester, NH 03104
Ph (603) 644 1773

RECEIVED
FEB 24 2004
TECHNOLOGY CENTER R3700

encl.:

- Examiner's interview Summary
- Terminal Disclaimer (with copy for Deposit Account Authorizations)

Interview Summary	Application No.		Applicant(s)	
	09/867,307		SHIBER, SAMUEL	
	Examiner		Art Unit	
	Kathryn Odland		3743	

All participants (applicant, applicant's representative, PTO personnel):

(1) Kathryn Odland (3) _____

(2) Samuel Shiber (4) _____

Date of Interview: 2/9/04

COPY

Type: a) ☐ Telephonic b) ☐ Video Conference
c) ☒ Personal [copy given to: 1) ☒ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☒ Yes e) ☐ No.
If Yes, brief description: Coils with spiral wound in tube - some similar replica to the invention

Claim(s) discussed: 1-4

Identification of prior art discussed: Demaris et al. US Patent No. 6,454,775

Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: _____

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Applicant brought in a demo of a similar invention.

The date of the relied upon reference was discussed.

Applicant claims priority back to 12/6/99 and stated that all the ~~above~~ claim limitations were included and

incorporated in reference. Thus, ~~the~~ the date of the relied upon reference is not prior.

Upon receipt of Amendment and/or Remarks further consideration and search will be updated.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Kathryn Odland
Examiner's signature, if required